# DIN EN ISO 14224:2007-04 (E)

## Petroleum, petrochemical and natural gas industries - Collection and exchange of reliability and maintenance data for equipment (ISO 14224:2006); English version EN ISO 14224:2006

## Contents

Page


**Foreword** ... 3

**Introduction** ... 4

**1 Scope** ... 5

**2 Normative references** ... 6

**3 Terms and definitions** ... 6

**4 Abbreviated terms** ... 12

**5 Application** ... 12
**5.1 Equipment coverage** ... 12
**5.2 Time periods** ... 13
**5.3 Users of this International Standard** ... 13
**5.4 Limitations** ... 13
**5.5 Exchange of RM data** ... 14

**6 Benefits of RM data collection and exchange** ... 15

**7 Quality of data** ... 17
**7.1 Obtaining quality data** ... 17
**7.2 Data collection process** ... 20

**8 Equipment boundary, taxonomy and time definitions** ... 21
**8.1 Boundary description** ... 21
**8.2 Taxonomy** ... 22
**8.3 Timeline issues** ... 24

**9 Recommended data for equipment, failures and maintenance** ... 26
**9.1 Data categories** ... 26
**9.2 Data format** ... 27
**9.3 Database structure** ... 27
**9.4 Equipment data** ... 29
**9.5 Failure data** ... 31
**9.6 Maintenance data** ... 32

**Annex A** (informative) **Equipment-class attributes** ... 35

**Annex B** (normative) **Interpretation and notation of failure and maintenance parameters** ... 116

**Annex C** (informative) **Guide to interpretation and calculation of derived reliability and maintenance parameters** ... 135

**Annex D** (informative) **Typical requirements for data** ... 153

**Annex E** (informative) **Key performance indicators (KPIs) and benchmarking** ... 159

**Annex F** (informative) **Classification and definition of safety-critical failures** ... 168

**Bibliography** ... 172